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| 7590 James W. Miller, Esq. Rand Tower, Suite 1960 527 Marquette Avenue Minneapolis, MN 55402 | | 08/16/2007 | EXAMINER VANAMAN, FRANK BENNETT | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/480,044

Applicant(s)

GUST ET AL.

Examiner

Frank Vanaman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-11 and 24-34 is/are pending in the application.
- 4a) Of the above claim(s) 30-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-11, 24-29, 33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Status of Application

1. Applicant's amendment of Jan 3, 2007 and supplemental comments of May 17, 2007, have been entered in the application. Claims 1-3, 5-11, and 24-34 are pending.

Election/Restrictions

2. Newly submitted claims 30-32 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 30-32 are directed to a method of operation of a mowing or cutting device, classified in Class 56, subclass 229. The newly claimed and originally claimed inventions are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case at least the product can be used in a materially different process of use, such as (a) continuously in a hybrid mode when, for example, the battery state of charge is too low to allow all-electric operation or (b) moving off the vehicle in all electric mode without cutting.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 30-32 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

3. Claim 25 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 25, as amended, now recites that the selecting of the all-battery mode "only shuts off the internal combustion engine", however the specification as filed does not support this recitation. In the specification as originally filed, the activation of the switch which selects either battery or hybrid drive additionally

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controls an aspect of the cutting device (see page 15, lines 26-36) and as such contradicts the recitation that the operation of the switch "only shuts off the internal combustion engine". Additionally, applicant's descriptions at page 17, lines 14-27, describing the active controlling of the alternator field (202) when the genset is operating, in combination with applicant's description of page 7 at lines 15-23, particularly lines 19-21 which describes that the operation of selecting switch 74 as deactivating the genset, imply that the active control of the field of the alternator is not undertaken when the genset is deactivated (there being no support for the active control of the alternator continuing upon deactivation of the genset), in contradiction to the claimed material.

4. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 5, line 11, it is not entirely clear to what value the term "relatively discharged" is referring. In this case, the examiner assumes that the relativity is with respect to the "substantially fully charged" condition.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 7, 8, 10 and 26-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Reimers et al. (US 5,794,422, filed 11/13/1995). Reimers et al. Teach an electrically driven turf machine including a frame (2) a plurality of ground engaging wheels (14, 16, 126a, 126b) connected to the frame and drivable by plural electric motors (e.g., 162a, 162b) and gearing reduction elements (164a, 164b), a plurality of reel cutting units (18a, 18b) each separately provided with driving motors (22), an electric drive control system (see figures 3a, 3b, 3c, 3d, note 132, 134, 136, 138, 140, 142, etc.) including a power supply circuit (116, 118, 127, 128, 130, etc.), a steering control (38) and a control panel (40) containing various operating elements, an internal combustion engine (29) coupled with an electric power generating device (28/31) which may be an AC alternator (figure 3b, element 114, note col. 7, line 63 through col. 8, line 3), a battery power source (24/127); wherein power supplied from the generator or

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alternator and power supplied from the batteries may be used to operate the electric motors (col. 5, lines 58-65), and power delivered from the generator or alternator may be used to charge the batteries, and wherein the motors are operably located between the alternator and the wheels, being supplied with electricity from the alternator and being arranged to drive the wheels.

7. Claims 26-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Young (US 4,964,265, cited previously). Young teaches a mower with a frame (10), at least one operating unit (20) carried on the frame for performing a turf maintenance function (cutting, in this case, driven by an engine 15), plural ground engaging wheels supporting the frame; a traction system (figure 4) for propelling the frame, a drive system (electric motors 30 driving reduction gears 35, driving, in turn, wheels 25) which may be powered from a battery source (95) or from the engine (15) which is coupled with and drives a generator (97), wherein the motors are functionally positioned between the generator (97) and the wheels (25), both engine and battery comprising at least a partial supply of drive power; the system under the control of a controller (e.g., 115) connected to one of the wheel motors.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-3, and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele (US 4,870,811) in view of Arendt (US 1,790,635) and Lamb et al. (US 5,406,778, cited previously). Steele teaches an electrically driven turf machine (note figure 5) in the form of a riding lawn mower, including a frame (shown beneath seat 12); a plurality of ground-engaging wheels, at least some of which are driven by an electric motor (col. 5, lines 27-29), a cutting unit (not specifically referenced, note 39 in fig. 1) driven by a separate electric motor (21); the electric motors being powered by an internal combustion engine (32) operatively connected to a power generating device (34) mechanically driven by the engine.

The reference to Steele fails to teach the use of a battery for providing power wherein the vehicle may be provided power from the generator or battery, further including switching mechanisms to allow the selection of engine-generator power or battery power, and including a device for controlling the selection of operational mode based on battery state of charge. Arendt teaches a power system for a vehicle including an internal combustion engine (1) driving a generator (2) and further including a battery (10); the vehicle powered by motors (A, a) powered by the engine or the battery, wherein the vehicle may be operated in an engine-drive mode (see at least p. 1, lines 66-85, and p. 4, lines 40-64), or a battery drive mode (p.2, lines 93-98), the system arranged to allow the engine to recharge the battery (e.g., p.1, lines 59-76) wherein at least a switch is provided (automatic switch 12, 70, 71, 72, 73; user operated manual switch 75, 76) to control the drive modes, the controller further including a connection to the field coils (3) of the generator; the automatic mode including a device (11) for sensing battery state of charge, which includes a display (pointer and scale, element 11) for indicating state of charge and thus a state of charge above or below a chosen value, wherein the battery is prevented from use as a sole source if discharged beyond a predetermined level. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Steele with a battery and a device for selecting battery-supplied drive current or engine-generator supplied drive current as taught by Arendt for the purpose of allowing a user to operate the vehicle in an emission-free mode (i.e., battery drive only), thus extending the locations and circumstances under which the vehicle may be used, further it would have been obvious to one of ordinary skill in the art at the time of the invention to use a pair of motors as taught by Arendt (note that Arendt teaches that either plural or a single motor(s) may be used) for the purpose of providing each driven wheel with a separate motor, reducing the space required for a single large motor.

The reference to Steele as modified by Arendt fails to teach the provision of the cutting unit as a plurality of reel cutters. Lamb et al. teach that it is well known to employ, in an electric mower having a battery supply, and at least a panel having a state of charge meter (70, 134), a plurality of reel cutters (18a, 18b, 18c) each driven by

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a motor. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the electrically driven cutting device of the mower of Steele as modified by Arendt with a plurality of reel cutters each driven by a separate motor as taught by Lamb et al., for the purpose of allowing a wider cutting width to the mower arrangement.

As regards claim 8, the combined references fail to specifically teach that an alternator may be used, however it is well known to use an alternator in place of a generator for the purpose of transferring generated power throughout the vehicle (i.e., prior to storage in the battery) using smaller gage wire and to allow easy step-up and step-down of voltages in the drive system (e.g., through the use of a transformer).

10. Claims 2, 3, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimers et al. in view of Arendt (US 1,790,635). The reference to Reimers et al. fails to teach the use of a battery for providing power wherein the vehicle may be provided power from the generator (and engine) or battery alone, further including switching mechanisms to allow the selection of engine-generator power or battery power. Arendt teaches a power system for a vehicle including an internal combustion engine (1) driving a generator (2) and further including a battery (10); the vehicle powered by motors (A, a) powered by the engine or the battery, wherein the vehicle may be operated in an engine-drive mode (see at least p. 1, lines 66-85, and p. 4, lines 40-64), or a battery drive mode (p.2, lines 93-98), the system arranged to allow the engine to recharge the battery (e.g., p.1, lines 59-76) wherein at least a switch is provided (automatic switch 12, 70, 71, 72, 73; user operated manual switch 75, 76) to control the drive modes. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Steele with a battery and a device for selecting battery-supplied drive current or engine-generator supplied drive current as taught by Arendt for the purpose of allowing a user to operate the vehicle in an emission-free mode (i.e., battery drive only), thus extending the locations and circumstances under which the vehicle may be used.

11. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele as modified by Arendt, Lamb et al. and Proctor (US 5,656,919). The reference to

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Steele, Arendt and Lamb et al. are discussed above, and while both the references to Arendt and Lamb et al. teach that it is well known to provide a state of charge meter for determining battery condition, fail to provide a plurality of indicator lights responsive to fully charged, 'relatively discharged' and intermediate states. Proctor teaches that it is well known to provide a battery state of charge indicator including a plurality of light elements (18a, 18b, 18c, 18d) which may be separately controlled and lit to indicate a fully charged condition (e.g., figure 3A) a relatively discharged condition (e.g., figure 3D or 3E or 3F) and an intermediate condition (e.g., figure 3C). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Steele and modified by Arendt and Lamb et al. with the battery state of charge indication device taught by Proctor in place of either the state of charge indicator taught by Arendt or Lamb et al. for the purpose of providing a multi-stage indication device which can simply display given conditions within predetermined ranges, thus simplifying the determination of the battery state by a user.

12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimers et al. as modified by Arendt, and Proctor (US 5,656,919). The reference to Reimers et al. and Arendt are discussed above, and while the reference to Arendt teaches that it is well known to provide a state of charge meter for determining battery condition, fails to provide a plurality of indicator lights responsive to fully charged, 'relatively discharged' and intermediate states. Proctor teaches that it is well known to provide a battery state of charge indicator including a plurality of light elements (18a, 18b, 18c, 18d) which may be separately controlled and lit to indicate a fully charged condition (e.g., figure 3A) a relatively discharged condition (e.g., figure 3D or 3E or 3F) and an intermediate condition (e.g., figure 3C). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Reimers and modified by Arendt with the battery state of charge indication device taught by Proctor in place of the state of charge indicator taught by Arendt for the purpose of providing a multi-stage indication device which can simply display given conditions within predetermined ranges, thus simplifying the determination of the battery state by a user.

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13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reimers et al. (cited above). The reference to Reimers et al. is discussed above and fails to explicitly teach the control of the alternator through a connection to the field windings of the alternator. It is exceptionally old and well known to control a magneto-electric machine by controlling current in the machine's field windings, and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a connection to the field windings of the alternator taught by Reimers et al. for the very old and very well known purpose of controlling the magnetic field strength and thus the operation of the alternator.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Steele in view of Arendt, Lamb et al. and Downing, Jr. (US 4,196,785, cited previously). The reference to Steele as modified by Arendt and Lamb et al. as discussed above fails to teach the separate motors as being provided with separate power controls connected to a steering wheel, allowing differential driving under turning conditions. Downing, Jr., teaches the use of a pair of separate motors in a steering application wherein a potentiometer (52), associated with a steering system which may be operated by a steering wheel, is used to deliver differential speed control of a pair of wheel motors (42, 64) driving separate wheels (44, 66). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the vehicle of Steele as modified by Arendt and Lamb et al. with a differential drive responsive to steering angle as taught by Downing, Jr., for the purpose of assisting a user in tight radius turning.

15. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reimers et al. in view of Downing, Jr. (US 4,196,785, cited previously). The reference to Reimers et al. as discussed above fails to teach the separate motors as being explicitly provided with separate power controls connected to a steering wheel, allowing differential driving under turning conditions. Downing, Jr., teaches the use of a pair of separate motors in a steering application wherein a potentiometer (52), associated with a steering system which may be operated by a steering wheel, is used to deliver differential speed control of a pair of wheel motors (42, 64) driving separate wheels (44, 66). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the

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vehicle of Reimers et al. with a differential drive responsive to steering angle as taught by Downing, Jr., for the purpose of assisting a user in tight radius turning.

16. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young in view of Arendt (US 1,790,635, cited previously). The reference to Young is discussed above and fails to teach a switch for selecting between an internal combustion power mode and a battery power mode, the switch operable by a user. Arendt teaches a vehicle which includes an internal combustion engine (1) driving a generator (2) and further including a battery (10); the vehicle powered by motors (A, a) powered by the engine or the battery, wherein the vehicle may be operated in an engine-drive mode (see at least p. 1, lines 66-85, and p. 4, lines 40-64), or a battery drive mode (p.2, lines 93-98), wherein at least a switch is provided (automatic switch 12, 70, 71, 72, 73; user operated manual switch 75, 76) to control the drive modes. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Young with a device for selecting battery-supplied drive current or engine-generator supplied drive current as taught by Arendt et al. for the purpose of allowing a user to control whether or not the engine is used, for example to conserve fuel and/or for the purpose of facilitating charge leveling (i.e., prevention of over-charge).

17. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele in view of Arendt, Lamb et al. and Ishmael (US 5,790,355). The reference to Steele as modified by Arendt and Lamb et al. is discussed above and fails to teach a display having a plurality of current draw indicators for each reel cutter. Ishmael teaches that it is well known to provide an electric mower device with a current draw indicator (30) to show the current draw by a motor (32) used to operate a grass cutting device. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a current draw (ammeter) display as taught by Ishmael for showing motor current drawn by the reel cutters, so as to allow a user to monitor current used to operate the mower. In that Lamb et al. teach a plurality of mower units, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an ammeter for each motor, so as to allow a user individually monitor each motor's usage (or determine the presence of an unusual current draw in a single motor). As regards

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claim 34, the use of a variable length band (e.g. bar-graph display) to display the current draw, it is very old and well known to replace an analog meter with variable band (e.g., bar graph) display to reduce the number of delicate moving parts in a display, as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the analog display with a variable band display for the purpose of reducing delicate moving parts and improving the robustness of the mower.

The examiner notes, with respect to claim 33, that Lamb fails to explicitly teach the presence of a bedknife, however, reel cutter would not function as a cutter without a bedknife, and as such, it is understood that either (a) the cutter taught by Lamb inherently includes a bedknife in order to function, or (b) it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a bedknife in the cutter of Lamb so as to render the cutter functional.

18. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reimers et al. in view of Ishmael (US 5,790,355). The reference to Reimers et al. is discussed above and fails to teach a display having a plurality of current draw indicators for each reel cutter. Ishmael teaches that it is well known to provide an electric mower device with a current draw indicator (30) to show the current draw by a motor (32) used to operate a grass cutting device. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the mower taught by Reimers et al. with a current draw (ammeter) display as taught by Ishmael for showing motor current drawn by the reel cutters, so as to allow a user to monitor current used to operate the mower. In that Reimers et al. teach a plurality of mower units (18a, 18b, etc), it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an ammeter for each motor, so as to allow a user individually monitor each motor's usage (or determine the presence of an unusual current draw in a single motor). As regards claim 34, the use of a variable length band (e.g. bar-graph display) to display the current draw, it is very old and well known to replace an analog meter with variable band (e.g., bar graph) display to reduce the number of delicate moving parts in a display, as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace the analog display with a variable band

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display for the purpose of reducing delicate moving parts and improving the robustness of the mower.

The examiner notes, with respect to claim 33, that Reimers et al. fail to explicitly teach the presence of a bedknife, however, reel cutter would not function as a cutter without a bedknife, and as such, it is understood that either (a) the cutter taught by Lamb inherently includes a bedknife in order to function, or (b) it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a bedknife in the cutter of Lamb so as to render the cutter functional.

Claims Not Rejected over the Prior Art

19. Claim 25 is not rejected as being unpatentable over or anticipated by the prior art of record, however this claim is not in condition for allowance in that it is directed to subject matter which is not supported by applicant's specification as filed, as discussed in the section under 35 USC §112.

Response to Comments

20. Applicant's comments have been carefully considered. The examiner notes that Reimers et al., filed previously to applicant's instant application and thus applicable under 35 USC 102(e), teach the elements of a number of applicant's pending claims. As regards the interpretation of Reimers et al. under 35 USC 102, the examiner notes that the drive arrangements more specifically shown in figures 3a and 3b are explicitly taught as being usable with the overall vehicle arrangements shown in figures 1 and 2, and the examiner understands that this constitutes an implicit teaching that an embodiment of, for example, the mower of figure 1 using the drive arrangement of figure 3b is anticipated by the reference (note, for example, col. 7, line 63 through col. 8, line 3).

As regards the addition of the limitations directed to the provision of a reel cutter in, for example claim 1, the examiner notes that while Steele fails to specifically teach a reel cutter, the reference is not explicit in the teaching of a particular type of cutting device, and Steele includes no apparent teaching limiting the reference from being used with a reel cutter. Lamb et al., of record, teach that it is well known to provide a reel cutter on a mowing device. Similarly, Reimers et al. teach a mower having reel cutters

As regards claim 5, applicant asserts that Arendt does not teach the plural lights now recited in claim 5. The examiner agrees. While Arendt does teach the provision of a device which can measure battery state of charge, the claimed lights are not taught. The reference to Proctor, now applied in direct response to applicant's amendment, teaches the use of a plurality of lights to show battery state of charge.

As regards claim 24, the examiner notes that while the arrangement taught by Young cannot be read on the claim as now amended, the reference to Steele as combined with Arendt may be applied against the claim as it is now amended.

As regards claims 26-29, applicant has asserted that the reference to Young may not be read on the claims in that the claims recite the motor being located between the generator and the wheels (supplemental response, page 3). The examiner disagrees. A brief perusal of figures 3 and 4 will show that the motors are functionally positioned between the generator, which is connected to the battery, and the wheels (i.e., through the reduction gearing). Inasmuch as the generator is connected to the battery, which is in turn connected to the motors (through the control unit), which are then connected to the wheels, the motors are functionally positioned between the generator and wheels. Applicant's comments directed to the 'dotted line' are noted, however not persuasive in view of the clear teaching of Young. Note, in addition, Young at col. 3, lines 34-36.

As regards newly added claims 33 and 34, the examiner notes that the reference to Ishmael, now applied in direct response to applicant's amendment, teach that it is very well known to provide a current draw indicator for a motor which drives a cutting device on a mower.

As regards applicant's comments concerning the "Unique Mobility/Toro" mower, the examiner notes that this reference has not been applied against the claims. Applicant may determine the status of the Unique Mobility reference, as to whether or not the reference constitutes prior art, by comparing the date the reference was made publicly available with applicant's filing date, making reference to the appropriate statutes (e.g., 35 USC §102 and 35 USC §103) and the MPEP (e.g., MPEP 706.02 (V)). In that the reference is not being applied against the claims, the point appears to be moot with regard to the instant prosecution.

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Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rogers (US 4,968,941) teaches that it is very old and well known to use a bar-graph type display in place of an analog ammeter device (col. 5, line 61 through col. 6, line 2).

22. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

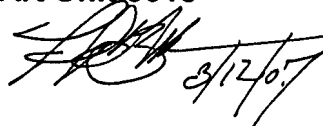
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F. VANAMAN
Primary Examiner
Art Unit 3618



Katherine Matecki
DIRECTOR, TC 3600